

REMARKS

Applicants have amended the claims to over come the objections and rejections. The specification has been amended to correct informalities. Reconsideration and allowance of the claims pending in the application are requested.

I. Status of the Claims:

Claims 1-27 are pending in the application.

Claims 1-27 stand rejected, as follows:

1. Claims 18, 21 and 22 were objected to because of informalities.
2. Claims 2, 16, 17, 25 and 26 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.
3. Claims 1, 3, 14 and 19 were rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.
4. Claims 2, 4-9, 15-17, 21 and 22 were also rejected under 35 U.S.C. § 101 due to their dependence from a rejected base claim.
5. Claims 1, 2 and 14-17 were rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Miao (USP 7,046,716 B1) because the invention was described in a patented or published application for patent by another filed in the United States before the invention thereof by the Applicant for patent.
6. Claims 3, 4, 10-1, 18, 19, 21 and 23-27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello, *et al.* (USP 7,088,795 B1).

7. Claim 22, is rejected under 35 U.S.C. § 103(a) as being unpatentable over Miao (USP 7,046,716 B1).

8. Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello, *et al.* (USP 7,088,795 B1), further in view of Salokannel, *et al.*.

9. Claims 6 - 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miao (USP 7,046,716 B1) in view of Aiello, *et al.* (USP 7,088,795 B1)

Applicants respond to the claim objections; claim rejections under 35 U.S.C. § 112, first and second paragraphs, and claim rejection under 35 U.S.C. § 101, 102, and 103, as follows:

II. Claim objections:

Claims 18, 21 and 22 have been amended to overcome their objections, as follows:

- a. Claim 18 has been amended to correct the lettering sequence to correspond with amended claim 14.
- b. Claim 21 has been amended to correct the lettering sequence to correspond to claim 19.
- c. Claim 22 has been amended to replace the term "other" with "equivalent low power communication means implementing compatible protocols with the group," which limits the scope of the claimed subject matter.

Withdrawal of the objections to claims 18, 21 and 22 is requested.

III. Claim rejections under 35 USC first and second paragraphs:

Claims 2, 16, 17, 25 and 26 have been amended to overcome their respective rejections under 35 U.S.C. § 112, first or second paragraph, as follows:

a. Claim 2 and 16:

(i) Claim 2 has been further clarified by re-writing to describe - “the method of claim 1, wherein the second communication link is established based on information communicated via the first wireless communication link.” Claim 2 is described in Applicants’ specification at page 5, lines 14 -21.

(ii) Claim 16 has been further clarified by replacing the terms “no unnecessary overhead” with “no link control overhead is transmitted through the second link”, as described in the specification at page 16, lines 12-16.

(iii) Claims 25 and 26 have been canceled without prejudice to advance the prosecution of the application.

(iv) Claim 17 has been clarified by replacing the terms “such as” with the terms “due to”, which overcomes any indefiniteness of claim 17.

Based on the amendments to the claims, applicants request withdrawal of the rejection of claims 2, 16 and 17 under 35 U.S.C. § 112, first and second paragraphs, as the case may be.

IV. Claim rejections under 35 U.S.C. § 101:

3. Claims 1, 3, 14 and 19 have been amended to further describe a practical application which produces a useful, concrete and tangible result and overcomes the rejection under 35 U.S.C. § 101, according to MPEP 2106, Section IV, as follows:

(a.) Claim 1 now describes establishing first and second wireless communication links, where the first link is low power and the second link transmission rate is faster than the first communication link. The first link controls communications on the second link and frees the second communication link from link control overhead.

Claim 1 describes a practical application in controlling communications on a second link by a first link where the second link is free of link control overhead.

Claim 1 describes a useful, concrete and tangible result by providing the second link with additional bandwidth via the absence of link control overhead on the second link.

(b.) Claim 3 further extends the practical application of claim 1 by eliminating sending acknowledgements in the ultra wide band transmission , which provides additional bandwidth in the transmission.

(c.) Claim 14 is in apparatus form and, as amended, corresponds to and includes the features of claim 1. Claim 14 overcomes the rejection under 35 USC 101 for the same reasons indicated for claim 1.

(d.) Claim 19 includes the feature of claim 1 in controlling communication on the UWB link (corresponds to second link in claim 1) by the low power communication link (corresponds to the first link in claim 1) and frees the UWB link from link control overhead, providing additional bandwidth on the UWB link.

Applicants submit that claim 1, 3, 14 and 19 as amended, satisfy the requirements of MPEP 2106, Section IV for the reasons indicated above, and overcomes the rejection under 35 U.S.C. § 101. Withdrawal of the rejection of claims 1, 3, 14 and 19 under 35 U.S.C. § 101 is requested.

V. Claim rejections under 35 U.S.C. § 102:

Claims 1, 2 and 14-17 include features not disclosed in Miao (USP 7,046,716 B1), and overcome the rejection under 35 U.S.C. § 102(e).

Miao discloses a dual mode transceiver having both UWB and WLAN 802.11x communication capability. The UWB and WLAN transceivers operate separately, and provide a user with either short range and long range communication, respectively, according to the user's needs. In contrast, Applicants describe a first low power communication link and a second ultra wide band link interacting via link manager protocol. The first low power link controls transmissions on the ultra wide band link to (a) free the ultra wide band link from link control overhead, (b) eliminate sending acknowledgement to a transmitter side, and (c) optimize payload data transfer on the ultra wide band link. Miao fails to disclose the subject matter of claims 1, 2 14-17, as follows

(A) Claims 1 and 14:

a) ~~installing~~ establishing a first wireless low-power communication link ~~between first and second~~ with another device;

The Examiner contends that Miao at col. 4, lines 53-67 and Figures 1 and 6 disclose the subject matter of feature (a). The cited text and Figures 1 and 6 disclose a modulation system transmitting UWB frequencies to a UWB network or transmitting WLAN frequencies to a WLAN network. There is no disclosure in Miao of the modulation system establishing a connection for the UWB or WLAN transceivers to a device, as described in applicants' specification at page 8, lines 11-14

b) ~~installing~~ establishing a second significantly faster wireless communication link ~~between with the terminals for data transfer~~ another device; and

The Examiner contends again that Miao at column 4, lines 52-67 and Figures 1 and 6 describes the subject matter of feature (b). The cited text and Figures disclose the UWB and WLAN transceiver are connected to their respective and different networks and not to the same device, as described in applicants' specification at page 8, lines 18-21.

c) controlling communication of the second wireless communication link via the first wireless communication link ~~to keep payload data transfer rate of the second wireless communication link optimized~~, wherein the first wireless communication link frees the second wireless communication link from link control overhead.

The Examiner contends that Miao at col. 5, lines 12-35 and Figure 2 discloses the subject matter of feature (c). The cited text and Figure 2 disclose "the transmitter of the dual mode system is able to transmit UWB signals for indoor or outdoor or WLAN signal in a longer range." Applicants can find no disclosure nor has the Examiner cited any disclosure in Miao where the WLAN transceiver controls transmission on the UWB circuit. In contrast, Applicants' specification at page 11, lines 14-22 describes a low power communication link controlling transmissions on a UWB link. Moreover, there is no link control protocol between the UWB and WLAN circuits in Miao because they operate independent of one another. Miao does not address the problem of freeing the second link from link control overhead, as described in Applicants' specification at page 16, lines 11-16.

Summarizing, Miao fails to disclose the subject matter of claims 1 and 14 for the reasons indicated above. Withdrawal of the rejection of claims 1 and 14 under 35 U.S.C. § 102 (e) for lack of support in the cited art.

B. Claims 2 and 16:

Claims 2 and 16 depend from and further limit independent claims 1 and 14, respectively and are patentable over the cited art on the same basis as claims 1 and 14.

Withdrawal of the rejection of claims 2 and 16 under 35 U.S.C. § 102 (e) for lack of support in the cited art.

C. Claims 15 and 17:

Claims 15 and 17 depend from and further limit independent claim 14, and are patentable over the cited art on the same basis as claims 14

Withdrawal of the rejection of claims 15 and 17 under 35 U.S.C. § 102 (e) for lack of support in the cited art.

VI. Claim rejections under 35 U.S.C. § 103:

Claims 3, 4, 10-1, 18, 19, and 21 include features not disclosed or suggested in Miao (USP 7,046,716 B1) in view of Aiello, *et al.* (USP 7,088,795 B1) and overcome the rejection under 35 U.S.C. § 103(a).

A. Claim 10:

a) attaching to a mobile device a memory stick including an integrated memory and ultra wideband (UWB) transmitter and receiver which captures UWB transmitted data up to 1Gbit/second;

No reference has been cited by the Examiner for this feature.

b) establishing a base device including an integrated memory and a base UWB transmitter and receiver;

The Examiner contends that Miao at col. 3, lines 17-20 discloses the claimed subject matter. The cited text describes a UWB communication transceiver coupled to a UWB

network 122.. There is no disclosure in the cited text of a base device with a UWB transceiver and an integrated memory, as shown in Figure 1 of Applicant specification.

c) initiating a low power communication connection between the mobile device and the base device;

The Examiner contends Miao at column 3, lines 17-20 and elements 114 to 122 in Figure 1 describe the claimed subject matter. The cited text describes connecting a UWB device to a network and not to a mobile device. The network does not equate to a mobile device.

d) exchanging UWB parameters between the devices via the low power communication connection;

No reference has been cited by the Examiner for this feature.

e) activating the mobile device UWB transmitter for transmitting data as modulated pulse trains to the base device receiver;

The Examiner contends that col. 4, lines 53-67 and a dual mode UWB and WLAN multi-carrier section transceiver 114 describe the claimed subject matter. The transceiver 114 is not a mobile device, and pulses are transmitted to a network. The network 122 does not equate to a base device receiver.

f) demodulating the mobile device UWB transmitter pulse trains in the base device UWB receiver;

The Examiner contends that network 122 equates to a demodulator for a UWB transceiver 114, which is not a mobile device and the network 122 does not equate to a base device receiver.

g) transmitting from the base device UWB transmitter to the mobile device UWB receiver, modulated pulse trains of the base device UWB transmitter interleaved between the modulated pulse trains of the mobile device UWB transmitter; and

The Examiner contends that Miao at col., 5, lines 12-40 discloses an interleaver 214 to interleave modulated pulse trains of the base device and the mobile device being transmitted by the base device. The cited text discloses a UWB transmission mode where data bits are inputted to a UWB transmitter. The data bits are interleaved using a block interleaver. The interleaver output bits are formed into 11 multichannels using PN multi channel sequencing. Applicants can find no disclosure or suggestion in the cited text where pulse trains of a UWB receiver and pulse trains of UWB transmitter are interleaved on the same link, as described in Applicants' specification at page 6, lines 4-6

h) demodulating the modulated pulse trains of the base device UWB transmitter in the mobile device UWB receiver.

The Examiner contends that col. 4, lines 55-67 and multi-carrier 114 describe the claimed subject matter. The cited text describe the separate transmission operations of the UWB transceiver and the WLAN transceiver. Applicants can find no disclosure nor has the Examiner cited any disclosure where the multi-carrier 114 demodulates pulse trains from the network 122.

Summarizing, Miao fails to disclose the features (a) - (h) of claim 10 as indicated above. The rejection of claim 10 is without support in the cited are. Withdrawal of the rejection of claim under 35 U.S.C. § 103(a) is requested.

B. Claim 11:

Claim 11 depends from claim 10 and further limits claim 10. Claim 11 is patentable over Miao, the cited art on the same basis as claim 10.

C. Claims 12, 13 and 18:

The Examiner contends that Aiello at col. 10, lines 39-45 and col. 3, lines 58- 67 together with Figures 1 and 3 disclose the integrated memory and memory stick 234 of applicants disclosure. The cited text discloses a network environment comprising first and second slave UWB transceiver devices under control of master a UWB transceiver where the master transceiver is capable of negotiating variable pulse repetition frequencies. Applicants can find no disclosure in the cited regarding an integrated memory in a memory stick as described in applicants specification at page 10, lines 11-16. Aiello fails to disclose the subject matter of claims 12, 13 and 18.

In any case claims 12, 13 and 18 depend from and further limit independent claims 1 and 14, as the case maybe, and are patentable over the Aiello and Miao on the same basis as their related independent claim.

D. Claim 21:

Claim 21 depends from and further limits claim 19 and is patentable over Aiello and Miao on the same basis as claim 19.

E. Claims 23 -27 have been canceled without prejudice to expedite the prosecution of the application.

F. Claim 22:

Claim 22 depends from and further limits claim 19 and is patentable over Aiello and Miao on the same basis as claim 19.

G. Claim 5:

The Examiner acknowledges that Miao and Aiello fail to disclose an acknowledgement from the mobile device before each UWB transmission, but contends that

Salokannel (US 20050058107) at paragraphs 17 and 23 disclose an acknowledgement before each UWB transmission. Salokannel is assigned to same assignee as that of the present invention at real/frame 014501/0736 on September 12, 2003 and is not a reference against claim 5 under 35 U.S.C. § 103(c). Withdrawal of the rejection of claim 5 is requested based on an improper reference.

H. Claims 6-9:

Claims 6-9 depend directly or indirectly from and further limit claim 1 and are patentable over the cited art on the same basis as claim 1.

VII. Patentability Support for New Claim 28:

Claim 28 further defines claim 14 and is patentable over the cited art on the same basis as claim 14. Entry and allowance of claim 14 are requested.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration; entry of the amendment; allowance of the claims and passage to issue of the application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4500, Order No. 4208-4146.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No 13-4500, Order No. 4208-4146.

Respectfully submitted,
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